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COVER STORY: DINOSAUR PROVINCIAL PARK[1]

by Norbert G. Kondla
Parks Division
Alberta Recreation and Parks
Edmonton, Alberta

GENERAL DESCRIPTION

The boundaries of Dinosaur Provincial Park enclose the finest badland terrain in Canada, with associated flora and fauna. The sedimentary beds exposed here contain abundant remains of vertebrates that lived during late Cretaceous times, about 75 million years ago. Consequently, this area has become internationally famous.

ACCESS AND FACILITIES

The park is located 48 km northeast of Brooks and is served by well-marked all-weather roads. Campsites are provided in the park, as are interpretive programmes and guided tours. In order to prevent illegal collection of fossils and to protect nesting raptors, most of the park is not open to uncontrolled public access. All travel in the park is by foot, except for a short circle drive and one road to a fossil exhibit.

ROCKS AND FOSSILS

During the late Cretaceous period this region of Alberta was a part of a broad floodplain that lay between the upland to the west and a sea to the east. Two orders of reptiles, collectively known as dinosaurs, were the dominant life forms of that time. Dinosaurs typical of the park include the buckbilled herbivorous *Corythorsaurus* and the agile carnivorous *Albertosaurus*, the latter weighing several tonnes. Other prominent dinosaurs were the *Chasmosaurus, Dromaeosaurus* and the horned *Centrosaurus*. The specimens in Dinosaur Provincial Park are found in the Oldman Formation, which is about 75 million years old and thus older than the fossil-bearing strata at Drumheller. The remains of almost three hundred skeletons of these animals have been excavated in the park. Four of the excavated skeletons were left *in situ* and are protected by buildings constructed over the specimens. Visitors can find fossil bone readily in the badlands but are warned not to collect it. If a find seems significant, it should be reported to a park ranger.

Dinosaur ramains are not the only fossils found in the park, however. Petrified wood, the body plates and fin spines of fish, fossilized crocodile excrement (coprolites), and small pieces of amber have been discovered here.

The three major physiographic divisions of the park may be seen from the viewpoint near the park entrance. They consist of relatively flat prairie uplands, badlands with innumerable drainage channels, and river terraces; each supports a distinctive flora and fauna.

[1]Editor's Note: This article is reprinted from Spalding, D.A.E. (editor). 1980. A nature guide to Alberta. Prov. Mus. of Alberta Publ. No.5. Hurtig, Edmonton. pgs. 105-108, with permission of the author, editor and Hurtig Publishers. The cover by Terry Thormin is from the same book, which was a joint FAN-Provincial Museum project (see President's Page). - A review by Derek Johnson will be published in a forthcoming issue of the Alberta Naturalist. - M.K.M.

PLANTS

Vegetation in the park is varied. The prairie supports the common grasses as well as moss phlox, prairie groundsel, pasture sage, prairie onion, and patches of cushion cactus. Broom rape, death camas, and squirrel-tail are less frequently seen. The badlands have the greatest variety of plant species. Prevalent here are vetches, prickly-pear, greasewood, and Colorado rubber plant. Bladder fern, low whitlow-wort, broom rape, and Indian breadroot are less common. The river terraces are dominated by plains cottonwood, groves of which frequently contain an understorey of water birch. Thickets of saskatoon, choke cherry, currant, willow, and other shrubs form a transition zone between the treed areas and the sagebrush flats, also common to the river terraces. Uncommon species here are sneezeweed, poverty weed, owl clover, and fringed loosestrife.

MAMMALS

Pronghorn are frequently on the prairie, mule deer in the badlands, and white-tailed deer on the wooded terraces. Other park mammals include beaver, Nuttall's cottontail, and bobcat.

BIRDS

On the prairie, long-billed curlew and the occasional upland sandpiper may be seen. Characteristic birds of the badlands include Say's phoebe, cliff swallow, rock wren, and common nighthawk. The shrubbery harbours western wood pewee, veery, northern oriole, and least flycatcher. The park is an excellent place to observe birds of prey, including the golden eagle, prairie falcon, and American kestrel.

OTHER ANIMALS

Reptiles and amphibians are well represented in the park. Species of particular interest are Dakota toad, plains spadefoot toad, bull snake, and western rattlesnake. Noteworthy invertebrates are scorpions and a variety of butterflies, such as the shasta blue and Riding's satyr.

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JOY FINLAY: ENVIRONMENTAL EDUCATOR

by Martin K. McNicholl
128 Silvergrove Hill N.W.
Calgary, Alberta T3B 4Z5

If any theme has surfaced repeatedly during my 15 or so years of work with naturalist groups in Manitoba and Alberta, it is the need to educate the public on the importance of our natural environment. What better place to start than with children? Joy Finlay has shown repeatedly that teaching children the wonders of nature need not be a difficult task - indeed, the secret revealed through her "Teacher's Corner" and similar articles in the Alberta Naturalist (J. Finlay 1973, 1974, 1975a, 1979, 1980a,b) is to look at the world through the eyes of a child and anticipate the types of questions and observations that will appeal to the enquiring mind of a child. No, teaching the child is not the difficult task. Convincing the powers-that-be in charge of educating children that environmental education should not be merely a "fun" subject to fill in time, but should permeate the entire school curriculum is the hard task.

Joy Finlay has convinced many school administrators of this important need through example and sheer hard work. In nominating Joy for the Loran L. Goulden Memorial Award, Dr. Lois Fenna, an outstanding achiever in environmental education in her own right, stated, "In the years since I have known Joy I have seen her persistence and dogged determination in holding her goal of environmental awareness by the public in front of the Parks, the Edmonton Public School Board, F.A.N., the Alberta Teachers' Association, all kinds of school principals and school teachers and thousands of school children." (L. Fenna pers. comm. 1979). The fifth Loran L. Goulden Memorial Award, selected in the closing month of 1979, the International Year of the Child, went to Joy Finlay in recognition of her outstanding achievements in

environmental education in Alberta. The ineptness of the Canadian postal system resulted in her learning of her award on New Year's Eve! My letter to Joy announcing the award did not reach her until two weeks after it was awarded, but copies to her nominator, Lois Fenna, and committee members reached them on time. Thus, Joy first learned of the award at a New Year's Eve party at Lois' (also, incidentally attended by committee member, Bruce Bembridge).

Joy was born in Davidson, Saskatchewan in 1932, but spent much of her youth in Manitoba, the oldest of 4 children (J. Finlay pers. comm.; Lansberg 1975). Her mother, Marie Barton, no doubt had some influence in shaping Joy's love of nature, as she, too, is a naturalist, as evidenced by her account of a visit to Writing-on-Stone Provincial Park, published in the Alberta Naturalist (Barton 1976). Like Joy, her widowed mother was a hard worker, who took summer courses to upgrade her education. Thus, from an early age, Joy learned to share responsibility, and also learned the value of thriftiness, an influence shown by her knack of creating teacher aids out of simple, used objects (see Lansberg 1975).

My first contact with Joy was shortly after I moved to Edmonton from Winnipeg. Her husband, Cam, was Chairman of the local committee for the Canadian Nature Federation meeting to be held in Edmonton in August 1972. Because of my earlier involvement in the pre-founding meetings of CNF (or, more accurately Can. Audubon Soc. directors and representatives of affiliated groups), I was asked to help out, and became Chairman of the sub-committee on local arrangements, a position later assumed by the late Loran Goulden, when I left for summer field work (McNicholl 1975). I also served on a sub-committee in charge of the program, which was chaired by Joy. It was in our meetings to plan programs that I first became aware of Joy's talents as an educator. Her own lecture in the program opened the eyes of many seasoned naturalists to the simplicity with which complicated ecological principles can be presented to children, and her snow kit was a real hit!

Joy teaches through example and simplicity. Her lifestyle is based on an important ecological principle: WASTE NOT! The article by Lansberg (1975) describes Joy's recycling expertise, in which her children apparently take considerable pride. Instead of the sophisticated and expensive equipment that would be needed by a researcher needing precise measurements of various parameters of snow, Joy's snow kit, designed only to demonstrate principles, consists of such inexpensive objects as a Christmas card, toilet paper rolls and a nylon stocking (all used, of course). Her manner of addressing a topic is to compare it with things familiar to the learning child and to analyze the role of integral parts - her adopt a tree and fallen leaves articles in this and the previous issue of the Alberta Naturalist (J. Finlay 1980 a,b) are excellent examples.

Although Joy's major contribution to natural history in Alberta has been through education outside the naturalist organizations, she has served the naturalist community directly, too. The bluebird trail around Edmonton started as a project of Joy's junior naturalists for Edmonton Parks and Recreation, and was gradually taken over by the Edmonton Natural History Club (J.C. Finlay 1980). Similarly, conducted nature walks for the public started by the city (J. Finlay 1972) became so popular that several ENHC members, including Loran Goulden, the author, and Jim Wolford, were enlisted to help out. As mentioned above, Joy played a key role in the Canadian Nature Federation conference in Edmonton in 1972. She was appointed a director of FAN in 1971, and remained an Appointed Director until 1977 (Powell in press),

and chaired the Environmental Education Committee throughout this period (see Powell 1972; J. Finlay 1976). During this time she was also involved with other federation activities, such as an attempt to encourage the organization of a naturalist club in Medicine Hat (Gladstone 1973). She has contributed a number of articles to the Alberta Naturalist (see list following this article), and is currently co-authoring an article with Cam Finlay on Grant MacEwan as a naturalist, at my request, for the special issue on the history of FAN and its corporate member clubs.

Joy began work with environmental education as a naturalist interpreter at Elk Island National Park in 1966, and later with Edmonton Parks and Recreation, where her bluebird trail and nature walk activities, mentioned above, took place. She has presented her "4 R's" concept of teaching (reading, 'riting, 'rithmetic, and REALITY - Finlay 1975a) to numerous workshops and conferences at provincial, national and international levels. In 1974, she obtained a professional diploma in education at the University of Alberta, and then taught school in Edmonton for 4 years. In 1978, she obtained her M.Ed., also at the University of Alberta (she had received a B.A. at the University of Brandon several years earlier). Joy has taught a number of courses related to environment and the outdoors at two faculties of the University of Alberta, and also at the Universities of Calgary and Lethbridge - not all her teaching is for children and their teachers! These courses are sometimes announced in the Alberta Naturalist. She has served as a resource consultant for several years to Edmonton Public Schools, a position she holds full-time at present. She has also presented courses at the Banff School of Fine Arts and Blue Lake Centre. Her numerous teaching materials are used across Canada and in the U.S. and Australia. Truly, her contributions to environmental education are far-reaching.

Joy's efforts have not gone unnoticed. She was chosen Inauguaral President of the Environmental and Outdoor Education Council of the Alberta Teacher's Association (J. Finlay 1976), and has served also as Chairman of Outdoors Unlittered, Alberta, as a member of the Task Force, Tri-University Conference on Teacher Education in 1979, and as a member of the board of Directors of Banff School of the Environment. These positions all recognize the importance of her work, but are yet more work in themselves! Awards which did not entail more work were Chatelaine Magazine's 1975 Award for outstanding woman of the year (Lansberg 1975), a life membership award of the Environmental and Outdoor Education Council of the Alberta Teachers' Association in 1978, and of course, the Loran L. Goulden award in January 1980.

Why has Joy done so well in establishing the conservation ethic in Alberta (especially Edmonton) education? I hope the above paragraphs convey one reason emphasized in both Dr. Fenna's nominations and in the letters of two committee members (Dr. Frank Harper and Gwen (Goulden) McCauley) in support of her nomination: sheer hard work, combined with gentle, but persistent persuation. The second reason is dedication to the field she loves, or as said by Joy in a letter reacting to her award, "I am deeply honoured, though I'm not sure I really deserve any kind of award when I enjoy what I am doing so much!"

Joy Finlay's real awards are to be found in the environmental awareness and appreciation instilled in thousands of children now and through them in generations to come.

Naturalist Publications by Joy Finlay

Note: Joy has also written many teaching aids, not listed here.

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TEACHER'S CORNER: WHAT GOOD ARE FALLEN LEAVES?

by Joy Finlay, Consultant
Edmonton Public Schools

Every blade in the field,
every leaf in the forest
lays down its life in its season
as beautifully as it was taken up.

- Henry David Thoreau

Autumn is the season to notice many changes taking place all around. It is a time to view some of the most beautiful landscape paintings ever made. Fruits have ripened and plants are prepared to close up shop for another season. There was a time when Jack Frost was given credit for the colourful autumn scenery - but now we know it has something to do with our earth being a solar-dependent ship rotating on a tilted axis. As days get shorter, there is less light for the manufacturing of chlorophyll. Chlorophyll, a pigment which is the green "magic" in plants, can only be produced in the presence of light. Other pigments such as xanthophyll (yellow) and carotin (orange) can be produced in the dark. Therefore, when more chlorophyll is used up than can be produced, the other pigments become predominant and give colour to the leaves.

When the leaves have completed their work for the season, they are discarded and the broadleaved trees will remain dormant during the energy crisis of winter. But notice how ready they are for renewing the food -making process in the spring. As one youngster phrased it: "next year's leaves are there in the buds, tucked in sleeping bags (bud scales) until the sun 'wakes' them up in the spring."

Now what about all the leaf litter that falls on the ground - what good is it?

Leaf litter protects topsoil from washing away. Decaying leaves help produce the spongy humus that conserves water by absorbing as much as three times its own weight. Leaf litter, like rotten logs and soil, serves as a refuge for an abundance of tiny life forms, including slugs, snails, spiders, beetles, mites, ants, millipedes and centipedes. Loose fallen leaves are in fact an insulating blanket. Fallen leaves soon begin to serve new purposes. Left to nature, they are not wasted. Weather, bacteria, fungi, insects and other agents of decay working on the leaf litter recycle vital nutrients into the soil - it is nature's fertilizer, a good example of resource

conservation by recycling.

Suggested Activities:

- Enjoy the colourfulness of fallen leaves by taking students on a "Lilliput" hike through them, on hands and knees of course, and from an imaginary perspective of an animal that is only a centimetre high - as big as an ant.

- Or present an opportunity for developing descriptive language through a "crunchy" experience. Proceed blindfolded over a blanket of fallen leaves; then list all the adjectives and descriptive phrases about observations, feelings and moods.

- To expand from sensory experience to a quantitative study, try a leaf count per year and area. Have students measure and mark a large square (3m x 3m) in a treed area. Randomly select a small square area (1 sq. m.) in it and count and identify all the leaves that have fallen in it this year. Then count and identify all the trees in the large square.

  Calculate number of leaves in the large square:

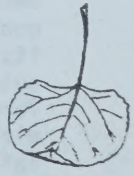
$$\frac{\text{large square}}{\text{small square}} \times \text{no. of leaves in small square}$$

  Then calculate the number of leaves per tree:

$$\frac{\text{calculated no. of leaves in large square}}{\text{number of trees in large square}} = \text{no. leaves per tree}$$

  A surprising number of leaves are produced by each tree. Consider the value and effect of so many leaves - to the tree, the area generally, to other plants, animals and to us.

- When in a natural area, or where leaves have not been raked up other years, challenge students to find the newest and oldest fallen leaf, then look for signs of the process by which leaves decompose. What happens to all the dead leaves each year? What are the agents of decomposition? What about compost piles in gardens? A thoughtful youngster suggested that the falling leaves and the recycling of their nutrients was similar to trees paying rent.



- For conceptual integration, consider the process of change. There are so many kinds of change taking place - daily, seasonal, historical, geological, quantitative, qualitative. Our earth home is a constantly changing, dynamic system. The more we know about the kinds of change - natural, cultural, technological - the better we may contribute to the

kinds of changes that we want for making communities healthy and viable places in which to live.

Editor's Note: This is a slightly revised version of an article which appeared originally in Alta. Nat. 4: 65-66, 1974, reprinted here as an example of Joy's writing for teachers. - M.K.M.

OUR FEATHERED FRIENDS

by Grace Grabill
Box 17
Stettler, Alberta TOC 2LO

Birds are such friendly creatures,
With cheery song and charming features.
All winter long we miss them so,
As they go south before the snow.

But soon we hear the sound we all know,
The friendly "caw-caw-caw" of the crow.
'Tis a sure sign that spring is here,
E're long the cheery robins also appear.

"Cheer-up, cheer-up" is their merry song,
Soon other birds join in the throng.
The graceful swallows come gliding in,
Their housekeeping chores soon to begin.

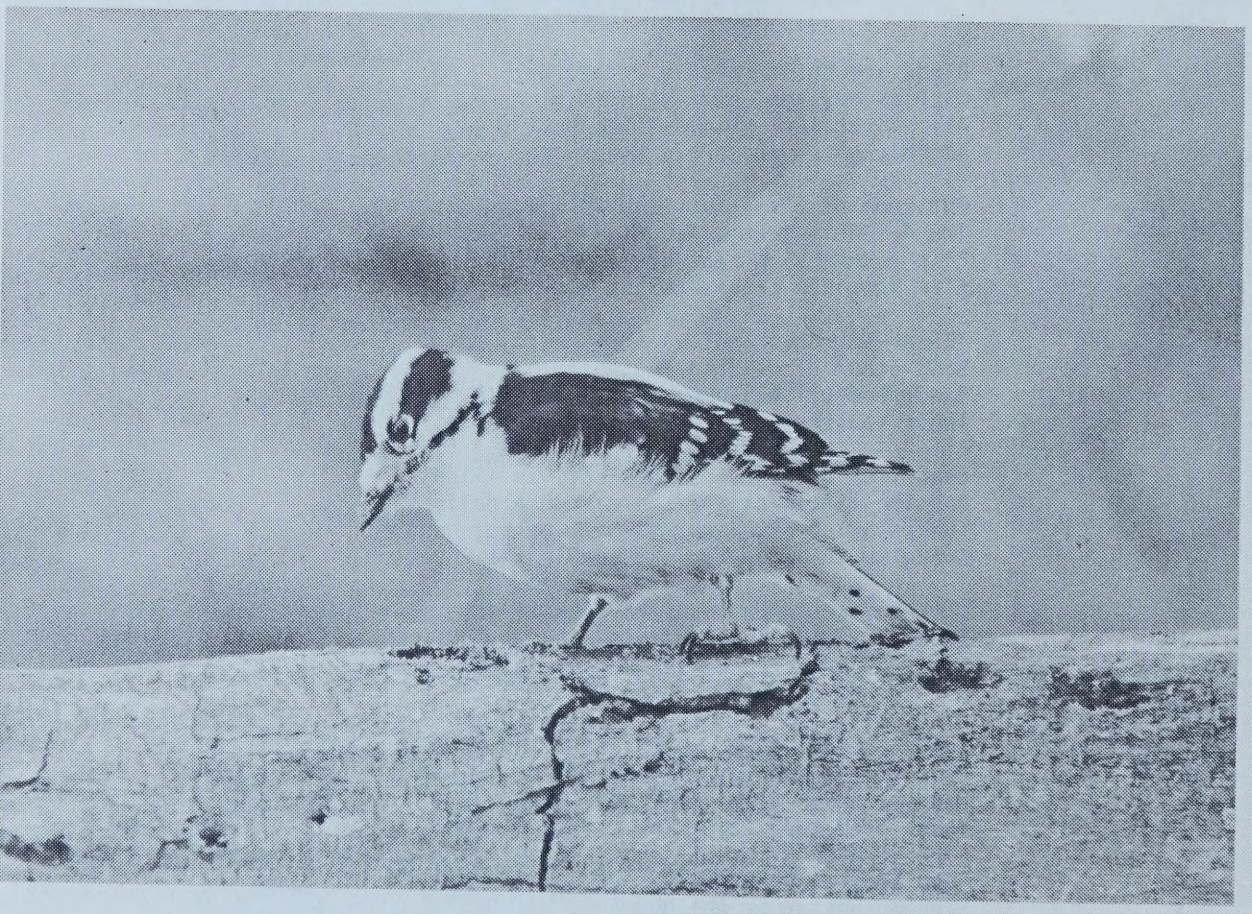
Beautiful bluebirds so delicate in flight,
And the little canaries are such a delight.
The colorful oriole with their basket nest,
Swing in the tree top and warble their best.

Little Jenny wren has such a sweet song,
Saucy and fidgity she flits along.
In a colony, the Purple Martins gather,
And set up housekeeping all together.

Among themselves how they visit and chatter,
Their homes and youngsters they do flatter.
Meadowlarks with a V on their breast,
Watch over their tiny, well hidden nest.

Hummingbirds whiz from flower to flower,
Sipping nector by the hour.
While woodpeckers faithfully peck away,
Rat-a-tat-tat, rat-a-tat-tat, all day.

Soon you'll see the flash of the Blue Jay,
And the red Cardinal so care-free and gay.
Let's not forget the cheery little chickadee,
Who flits about with such friendly curiosity.



Downy Woodpecker, a feathered favourite. Photo by Jim R. Salt.

And of course the wise old owl,
Sleeps all day and at night does prowl.
Oot-too-hoo, hoo-hoo, is his weird call,
How spooky when the night shadows fall.

Up in the sky soars the hawk so cunning,
Ready to catch its prey a running.
The Ruffed Grouse drums a weird sound,
Deep in the woods where it is found.

While Prairie Chickens strutt and prance,
As they perform their delightful dance.
Gulls congregate on their favorite nesting ledge,
But the kingbird builds its nest in the hedge.

Snipes and Killdeer rapidly run to and fro,
They build their home on the ground below.
Maggie magpie with bulky house in a tree so high,
Angrily "cack-cack-cacks" to the passers-by.

These wonderful birds are delightful to see,
Not only do they charm us with sweet melody,
Beautiful colours, and graceful flight,
But destroy harmful pests both day and night.

By the dozens insects are devoured,
And harmful rodents soon over-powered.
So let's protect these marvelous friends,
Their life, safety and freedom on us depends.

SPRING MEETING 17-19 MAY 1980, GRANDE PRAIRIE AREA

---

by Charles Harper
c/o Box 1472
Edmonton, Alberta T5J 2N5

For F.A.N.'s spring General Meeting, some thirty-five corporate directors and F.A.N. members drove or bussed north to the Grande Prairie region, where the Trumpeter Swan Naturalists hosted us regally.

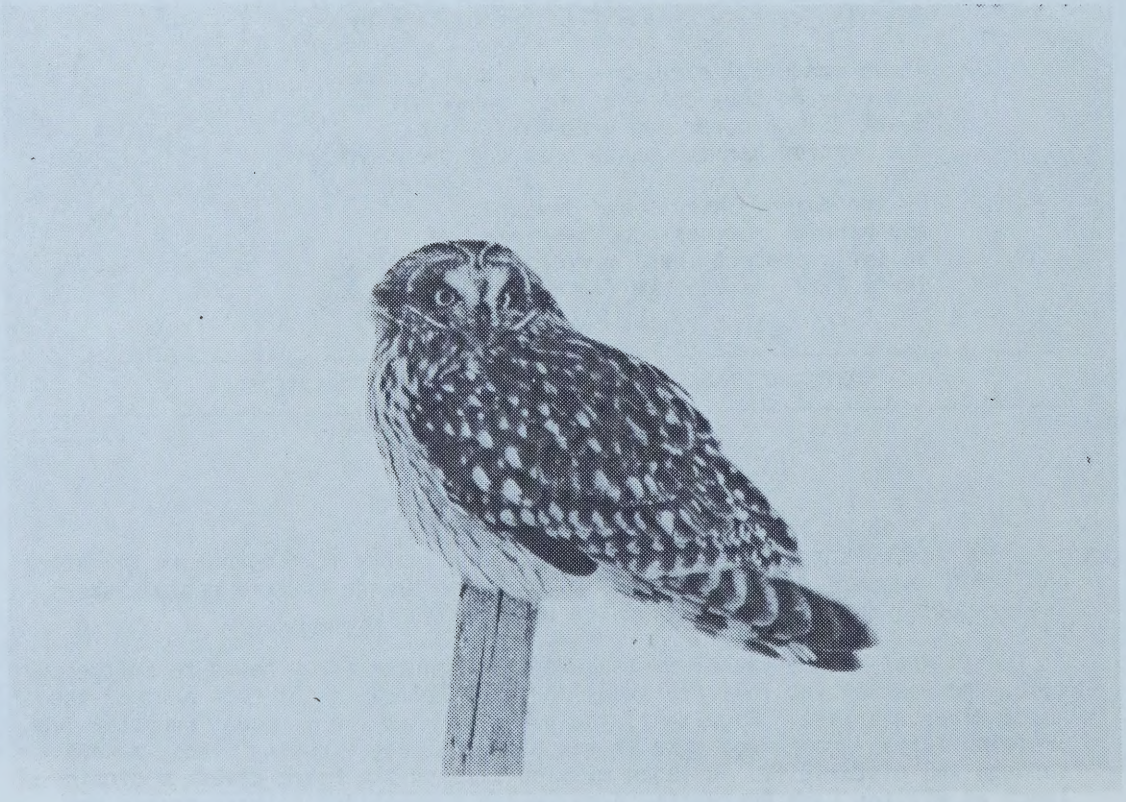
With just a sprinkle of much-needed rain in the early hours to settle the dust, the weather was fair and sunny for our exploration of this part of the Peace River district. Highlights included looks at the various Trumpeter Swan breeding lakes -- at Jones Lake we saw nine of these imposing birds; a walk through the historic Ft. Dunvegan mission site on the Peace River; a picnic lunch at Hilltop Lake Recreation Area, where a beautiful Calypso orchid was seen in bloom; and a ramble through one of the extensive Black Spruce bogs north of Whitecourt, enroute.

Although the weather was summery, it was still too early for many of the breeding birds; but ninety species were recorded, including among the more interesting Barrow's Goldeneye, Surf Scoter, Sharp-shinned Hawk, Sandhill Crane, Short-eared Owl, Bohemian Waxwing, Warbling Vireo; Orange-crowned, Black-throated Green, and Palm warblers, and Lincoln's Sparrow.

Saturday evening was wrapped up with a potluck supper and a lively talk and discussion on the philosophical bases of our often-bigoted attitudes towards animals and other human beings; Sunday was climaxed by a glorious steak barbecue at Grande Prairie College.

The board of directors of F.A.N. grudgingly took time from the activities to pass several motions, including (1) acceptance of the Alberta Speleological Society as a full corporate member of F.A.N., (2) the distribution of bursaries to teachers training in environmental education, (3) the raising of individual F.A.N. annual memberships to $6.00, and (4) the continued support of our environmental coordinator.

And all was punctuated with music, laughter, good conversation, good fellowship, and joy. Many thanks to all those Trumpeter Swan Naturalists, friends and family, who worked so hard in making this meeting an unequivocal success.



The Short-eared Owl is a bird of irregular occurrence - rare one year, common another. Photo by Jim R. Salt.

ODE TO AN AUTUMN MIGRANT

by Lloyd Malvern Lohr
Box 1414
Stettler, Alberta TOC 2LO

Oh Bird, you are a mysterious thing,
As you flit by on bended wing;
Or hide deep down among the grass,
While I strain to see with eye and glass
Some mark or colour or some note to hear,
But you've changed your garb since you were last here.

Read my book, check my notes, all to no avail,
Even though you and yours have followed this trail,
For countless years, makes me bow in reverence tonight;
To the Power above that guides your flight,
And humbles this mortal to think he would try,
To understand God's ways with His birds in the sky.

(Composed and hand tooled onto the leather cover of L. Lohr's Field Guide to the identification of birds.)

- submitted by Mary Lore,
FAN President

MAMMALS OF ALBERTA[1]

by Hugh C. Smith
Provincial Museum of Alberta
12845 - 102 Avenue
Edmonton, Alberta
T5N OM6

This checklist has been prepared to provide a reference to those mammals that occur within the geographic boundaries of Alberta. Unlike ornithologists, mammalogists have not been able to come to a consensus on an accepted list of names for the mammals of North America. As a result, there are a number of vernacular or common names in use for many of the mammals that are found here. As well some early students of mammals gave common names to different races or subspecies.

In preparing this checklist I followed the arrangement and names of Jones *et al.* (1979), except where more recent studies have indicated changes are necessary or they have not listed a reference for their change.

[1]Editor's Note: This paper was printed by the Museum in June 1980 as Natural History Information No.27, second edition, and sent to us by Mr. Smith for publication. Copies may be obtained free of charge from the Museum at the above address. - M.K.M.

Pika. Photo by Jim R. Salt.

For example, the use of *Myotis septentrionalis* for Eastern Long-ear Bat follows van Zyll de Jong (1979) and *Sorex hoyi* for Pygmy Shrew follows Diersing (1980). Jones *et al.* (1973) used the generic name *Lynx* for Lynx and Bobcat. In their 1975 revision they used the generic name *Felis* for these two animals and they continued with the name *Felis* in their 1979 revision, but in neither revision did they cite an authority for the change. Because of the uncertainty of the taxonomy of the cat group, I have opted for the first generic name, *Lynx*, in this checklist. I have followed most North American workers in using the family name Cricetidae, and although the arguments of Ellerman (1940-45), Banfield (1974), and others for including these mice under the family name Muridae is acknowledged, I have chosen not to use it. In a few instances I have included an additional common name to that used by Jones *et al.* (1979). These names are frequently used in Alberta and my not using them in this checklist may lead to confusion. I have also used the name "bat" in place of myotis, as many people are not familiar with this name.

A total of 90 species of mammals has been recorded for Alberta. Of this number, one, Brown Lemming is considered hypothetical and is placed in (); two are accidental, Red Bat and Gray Fox; two may be extirpated in the province, Swift Fox and Black-footed Ferret; and four have been introduced, Gray Squirrel, Black Rat, Norway Rat, and House Mouse.

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van Zyll de Jong, C.G. 1979. Distribution and systematic relationships of long-eared *Myotis* in western Canada. Can. J. Zool. 57:987-994.

Class: Mammalia

Order: Insectivora (Shrews)

Family: Soricidae

Sorex cinereus	Masked Shrew
Sorex monticolus	Dusky Shrew
Sorex palustris	Water Shrew
Sorex arcticus	Arctic Shrew
Sorex hoyi	Pygmy Shrew

Order: Chiroptera (Bats)

Family: Vespertilionidae

Myotis lucifugus	Little Brown Bat
Myotis septentrionalis	Eastern Long-eared Bat
Myotis evotis	Long-eared Bat
Myotis volans	Long-legged Bat
Myotis leibii	Small-footed Bat
Lasionycteris noctivagans	Silver-haired Bat
Eptesicus fuscus	Big Brown Bat
Lasiurus borealis	Red Bat
Lasiurus cinereus	Hoary Bat

Order: Lagomorpha (Pikas, Rabbits, and Hares)

Family: Ochotonidae

Ochotona princeps	Pika

Family: Leporidae

Sylvilagus nuttallii	Nuttall's Cottontail
Lepus americanus	Snowshoe Hare
Lepus townsendii	White-tailed Jack Rabbit

Order: Rodentia (Rodents)

Family: Sciuridae

Eutamias minimus	Least Chipmunk
Eutamias amoenus	Yellow-pine Chipmunk
Eutamias ruficaudus	Red-tailed Chipmunk
Marmota monax	Woodchuck
Marmota flaviventris	Yellow-bellied Marmot

Least Chipmunk. Photo by Jim R. Salt.

Marmota caligata	Hoary Marmot
Spermophilus richardsonii	Richardson's Ground Squirrel
Spermophilus columbianus	Columbian Ground Squirrel
Spermophilus tridecemlineatus	Thirteen-lined Ground Squirrel
Spermophilus franklinii	Franklin's Ground Squirrel
Spermophilus lateralis	Golden-mantled Ground Squirrel
Sciurus carolinensis	Gray Squirrel
Tamiasciurus hundonicus	Red Squirrel
Glaucomys sabrinus	Northern Flying Squirrel
Family: Geomyidae	
Thomomys talpoides	Northern Pocket Gopher
Family: Heteromyidae	
Perognathus fasciatus	Olive-backed Pocket Mouse
Dipodomys ordii	Ord's Kangaroo Rat
Family: Castoridae	
Castor canadensis	Beaver
Family: Cricetidae	
Reithrodontomys megalotis	Western Harvest Mouse
Peromyscus maniculatus	Deer Mouse
Peromyscus leucopus	White-footed Mouse
Onychomys leucogaster	Northern Grasshopper Mouse
Neotoma cinerea	Bushy-tailed Woodrat
Clethrionomys gapperi	Gapper's Red-backed Vole
Phenacomys intermedius	Heather Vole
Microtus pennsylvanicus	Meadow Vole
Microtus longicaudus	Long-tailed Vole
Microtus xanthognathus	Yellow-cheeked Vole
Microtus ochrogaster	Prairie Vole
Arvicola richardsoni	Water Vole
Lagarus curtatus	Sagebrush Vole
Ondatra zibethicus	Muskrat
(*Lemmus sibiricus*	Brown Lemming)
Synatomys borealis	Northern Bog Lemming

Family: Muridae

Rattus rattus	Black Rat
Rattus norvegicus	Norway Rat
Mus musculus	House Mouse

Family: Zapoidae

Zapus hudsonius	Meadow Jumping Mouse
Zapus princeps	Western Jumping Mouse

Family: Erethizontidae

Erethizon dorsatum	Porcupine

Order: Carnivora (Carnivores)

Family: Canidae

Canis latrans	Coyote
Canis lupus	Gray Wolf
Alopex lagopus	Arctic Fox
Vulpes vulpes	Red Fox
Vulpes velox	Swift Fox
Urocyon cinereoargenteus	Gray Fox

Family: Ursidae

Ursus americanus	Black Bear
Ursus arctos	Grizzly Bear

Family: Procyonidae

Procyon lotor	Raccoon

Family: Mustelidae

Martes americana	Marten
Martes pennanti	Fisher
Mustela erminea	Ermine (Short-tailed Weasel)
Mustela nivalis	Least Weasel
Mustela frenata	Long-tailed Weasel
Mustela nigripes	Black-footed Ferret
Mustela vison	Mink
Gulo gulo	Wolverine
Taxidea taxus	Badger
Mephitis mephitis	Striped Skunk
Lutra canadensis	River Otter

Family: Felidae

Felis concolor	Mountain Lion (Cougar)
Lynx canadensis	Canada Lynx
Lynx rufus	Bobcat

Order: Artiodactyla (Deer, Pronghorn, Bovids)

Family: Cervidae

Cervus elaphus	Wapiti
Odocoileus hemionus	Mule Deer
Odocoileus virginianus	White-tailed Deer
Alces alces	Moose
Rangifer tarandus	Caribou

Family: Antilocapridae

Antilocapra americana	Pronghorn

Family: Bovidae

Bison bison	Bison
Oreamnos americanus	Mountain Goat
Ovis canadensis	Mountain Sheep (Bighorn Sheep)

CONTRA-INDICATIONS TO THE LAW OF AVERAGES IN SOUTHERN ALBERTA

by Elizabeth C. Hall
2602 - 6th Ave. South
Lethbridge, Alberta T1J 1C7

There can be no more precarious way of earning a living than being a weather forecaster in southern Alberta. However I would speculate that a little more than 50% of the time, one can expect February to be pleasantly mild, March will be bitter with a return to winter, April will bring wet snow or rain, May will tend to be warm and dry, and June wet. As a result, the average flowering times of native plants show an early growth in mid-April with some 4-8 species in flower by the end of the month. There is a rapid development of early flowerers in May, so that by the May count there are often 35-45 species in bloom. This is usually followed by a quieter, less colourful period in June, and then another burst of colour in July as the main summer species come into flower.

Departures from the normal weather pattern can cause startling changes in the plant response. As for example in 1977 when a long period of drought was suddenly broken in August by heavy rains; spring-flowering plants which had either not flowered at all, or else had been stunted and dwarfed, suddenly grew to normal size, flowered and set seed, all within 3-4 weeks (Hall 1978).

Last autumn (1979) the rainfall was light, the ground went into the winter dry, snowfall was less than average, and the spring was hot early and remained dry.

In mid-March, 1980, when the frost came out of the ground, the coulees were wet, and this started plant growth early; but there was no subsequent precipitation.

The earliest flowerers, such as *Townsendia serices, Anemone patens, Lomatium foeniculaceum, Lomatium macrocarpum* and *Musineon divaricatum* suffered very little; in fact, *Anemone patens* had one of its more prolific flowerings. As the season progressed, plant growth slowed and it was clear that many species were either not producing flower buds, or were to have only a limited blossoming. The long weekend of 17-18 May was very hot with strong winds; even in the city gardens were shrivelling. On the 18th Mt. St. Helen's, Washington, exploded, and the dust cloud arrived in Lethbridge on Monday 19 May around 11 am - 12 noon. This added to the discomfort and distress of all species, human included.

On Thursday, 22 May, the rains came. And continued. The following three weeks were cool to cold and very wet, with precipitation around 16-17 cms. in the environs of Lethbridge.

In the first week of June, when it was once more possible to negotiate the coulees, I saw that several odd things had started to happen.

1. Plants that had shown no sign of development of flower buds previously, started to produce them, e.g. *Sphaeralcea coccinea, Symphoricarpos occidentalis*.
2. Plants that had had a brief and completed flowering, renewed their growth and produced a second flowering, e.g. several of the Leguminosae, particularly *Astragalus drummondii*.
3. Plants with flowers in racemes which were still not quite over, elongated the racemes up to twice the original length and continued to bloom for a further three weeks, e.g. most noticeably *Astragalus bisulcatus*.
4. One species at least that had apparently gone into dormancy for the year now started to grow vigorously and as of Friday, 4 July, was just beginning to blossom: *Bahia oppositifolia*.
5. Finally *Hedysarum boreale*, which flowered at its normal time fairly vigorously although many plants did fail to produce flowers, has as late as the present date (6 July) produced a completely fresh burst of growth and large racemes of normal-sized flowers.

All of which goes to prove that there is no such thing as an average or predictable year for either weather or plants in southern Alberta.

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Hall, E.C. 1978. Flowering patterns of native plants, Lethbridge, 1977. Alta. Nat. 8:32-35.

NATURALISTS' BOOKSHELF

FLORA OF THE PRAIRIE PROVINCES
by Bernard Boivin. 1979. Provancheria, No. 5, Universite Laval, reprinted from Phytologia vol. 42-43. 189 pp.

I recommend that those prairie naturalists who have not seen or used this flora do so. With Part IV, Monopsida, Boivin has once again constructed a key which reveals his painstaking efforts to include every species known in the area (Manitoba, Saskatchewan and Alberta), especially those which are rare. Part IV includes four sub-parts. These were first published in Phytologia 42:1-24, 385-414, and 43:1-106, 223-250.

Part IV is a continuation of the preceding three parts, and together all four serve as a guide to the vascular plants of the prairie region. In Part IV are included the Monopsids (Monocots), which differ most obviously from the other plant groups with respect to their leaves. Some important families included under the Monopsids are the Lilliaceae (Lily Family), Orchidaceae (Orchid Family), Juncaceae (Rush Family), Iridaceae (Iris Family), Hydrocharitaceae (Frog's Bit or Waterweed Family), Lemnaceae (Duckweed Family), Gramineae (Grass Family) and Cyperaceae (Sedge Family).

The text begins with a discussion of the obvious differences between the basic leaf type of Dicopsids and Monopsids. This information is helpful for the beginning taxonomist for directing his attention in the key in addition to serving as a useful review for those who are more experienced.

Following the discussion are two keys for the Monopsids. The first is a natural key, which focuses primarily on vegetative features. The second is a purely artificial key. Both focus on major observable characteristics. For identification purposes this reviewer found both to be equally satisfactory.

Despite the fact that the vascular plants have been broken into four parts there is excellent cohesion throughout. For example, reference to the Monopsids, Part IV, was made in Part I.

The description which follows for each species includes in addition to the Latin name, both the English and French popular names when known to be vernacular in Canada and North America respectively. Also the native or introduced status of the plant has been indicated. Other factors which are included with the description are an indication of synonyms for the species, its geographical distribution and a detailed description of the plant's major features.

Without minimizing the worth of this key to the prairie naturalist, particular weaknesses which should be identified were found. First, the series has been bound in paper which is not suitable for field use. I recommend that the user plasticize the cover to avoid tearing and water and soil stains, etc. which often comes with field use.

Second, this reviewer found the two sets of page numbers in Part IV somewhat confusing. The numbers on the upper right hand corner refer to the article's entry in Phytologia, while those on the bottom of the page are specific for Part IV.

Confusion over page numbers became even more evident when there was found no correlation between pagination in the key and the place where families could be located. Only by chance this reviewer came upon the Addenda and Corrigenda section where the page equivalents were written. All confusion could be lessened if the author had made such corrections in the key prior to publication or at least indicated where such corrections may be found.

The fourth weakness refers to the design of the text. The small print and crowded format may make it seem rather dull and unappealing to the reader. There were no illustrations to aid the beginner with the distinguishing of plant characteristics. These points may seem overly picky, but if a key is to be beneficial to all individuals interested in plant identification, as the author mentions is his intention, then format as well as content should receive equal emphasis.

Another feature missing is a glossary of terminology used. Even the experienced botanist often requires the use of a glossary to review or define a term in the key. An individual may find difficulty in using this flora either at home or in the field unless he carries with him a supplementary source such as Moss' Flora of Alberta where a glossary has been included.

Those familiar with Moss or other keys may have difficulty understanding how the author has made certain family groupings. For example, the rare plant Little Soapweed (*Yucca glauca*) which this reviewer has spent much time investigating in the past, was placed under the Agave Family (Agavaceae) instead of the Lily Family (Liliaceae) where it is usually included. Another difference from most standard keys was that *Scheuchzeria palustris* was placed in its own family Scheuchzeriaceae instead of Juncaginaceae used by Moss and others. The Horned Pondweed (*Zannichellia palustris*) which Moss and others include in the Pondweed Family (Najadaceae) is included by Boivin in the Zannichellia Family (Zannichelliaceae). The Widgeon or Ditch Grass (*Ruppia occidentalis*) which is also included in the Pondweed Family in Moss is placed in the Ruppiaceae by Boivin. Other differences in family grouping can be found in Flora of the Prairie Provinces. The lack of consistency between this system and others, such as Moss, which are presently widely used on the prairies may lead to confusion for those who are already accustomed to using one system or are switching back and forth between keys.

Flora of the Prairie Provinces provides a valuable guide to the vascular plants of the prairie provinces. It's comprehensive coverage is itself an advantage over the majority of keys currently used.

- Bruce J. Milner
1107 - 2725 Melfa Rd.
Vancouver, B.C. V6T 1N4

Red Squirrel. Photo by Jim R. Salt.

NATURALISTS' BOOKSHELF

Mammals of the Edmonton Area

by Hugh C. Smith. 1979. Mammals of the Edmonton area. Prov. Mus. Alta., Nat. Hist. Occasional Paper no. 2; 34 pp. Available from The Bookstore, Provincial Museum of Alberta, 12845 - 102 Avenue, Edmonton, Alberta, T5N 0M6; $1.25.

Mammals of the Edmonton Area by Hugh Smith is the second in a series of technical or semi-technical publications from the Provincial Museum. It consists of a general Introduction, with definition of the geographic area treated; a short Species Checklist, and an Annotated Species List for the Edmonton region; a Hypothetical List; a brief Discussion of the 53 species listed, and a synopsis of Edmonton mammalian fauna, analysing its ecological affinities; and finally a Bibliography.

As Smith states in the opening remarks, "Wildlife around large urban centres is frequently poorly known," and prior to the publication of this checklist, if I wished to find out whether such-and-such a species occurred in or around Edmonton I would have to do all the "leg-work" myself, culling through dozens of publications. The annotations give some idea of the status - abundance or rarity - of each species, as well. And since the work is essentially a compilation of the literature from previous field-work - going back in some cases to the Nineteenth Century - I may also form an impression of changes in status among these mammals. The fact that observers in the early part of this century found the Thirteen-lined Ground Squirrel fairly common, for example, and that recent observers find little or no sign of it, is rather suggestive of significant environmental changes, since the species has rather narrow "habitat" requirements, and does not tolerate some types of human disturbance.

As a synopsis of field work in a well-populated region, Smith's work reveals immediately how very little field study has been published, for he has available only a handful of investigations, very widely separated in time, from which to draw. One might expect to find a wealth of short notes, at least, on species-occurrences, behaviour, and so forth, for a city of this size. As Smith remarks, "it is not uncommon for the animals of some remote section of the country to be better known than those close to centres with large populations." If publications such as Mammals of the Edmonton Area were to serve no other purpose than to awaken local naturalists, and prompt them to make notes on mammals in their own back yards, then it would have served an admirable purpose.

However, the paucity of material is not entirely due to inactivity in urban areas; it is due also to lack of publication. Before reading Smith's booklet I had already heard two or three verbal criticisms - common after the appearance of any such work - to the effect that he had not contacted so-and-so, or used the observations of such-and-such a naturalist. While it is certainly incumbent upon a writer to cover his subject as thoroughly as possible from the literature, it cannot be held against him that he failed to locate all of the unpublished diaries, journals and field-notes in a region of almost 1 million people. There is a responsibility of the individual naturalist to see that his observations are somehow published - and in Alberta there is a wealth of outlets for these notes, from Alberta Naturalist to regional or local periodicals.

The appearance of Smith's work may in fact prompt such publications, for one purpose of checklists like Mammals of the Edmonton Area - though not an enviable one, perhaps - is to provide a target at which the rest of us may shoot, making minor (and even some major) corrections and additions, as our observations accumulate. Since Smith is quite meticulous in his documentation, he has constructed a fine target.

Perhaps it is a measure of success that Mammals of the Edmonton Area prompted me to speculate on how the series might be continued and diversified. There are other large Alberta centres whose mammals (and other fauna) are equally unknown; and there is a wealth of phenological or chronological and behavioural material on particular species and groups which would be useful and interesting to naturalists, if put in this easily-available form. The addition of black-and-white photographs might also be considered, although they should not interfere with the $1.25 price, which makes this a bargain indeed for the person seeking semi-technical information on regional natural history.

- Jim Salt
8731 - 117 Street
Edmonton, Alberta T6G 1R6

NATURALISTS' BOOKSHELF

The Park Buffalo
by Sheilagh C. Ogilvie. 1979. 68 pp., illustrated, paperback. Calgary-Banff Chapter National & Provincial Parks Association of Canada. c/o P.O. Box 7156, Postal Station "E", Calgary, Alberta T3C 3M1. $4.95 + 50¢ postage/packing.

This little book evolved from a Parks Awareness Project carried out by the author with funding from Parks Canada in 1976 and 1977. New information from 1978 (such as the Jasper National Park transplant experiment) is also included.

In the words of the editor, Robert C. Scace, The Park Buffalo is an attempt "to distill the many complexities and subtleties into a story which may be enjoyed by the general reader (particularly younger readers) and which will instill in him or her a fuller appreciation of the worth of a system of national parks." Additionally, the focus is on the Canadian story, one which has not been presented in detail to the public previously.

Some of the more familiar United States history is retold, but is integrated with events in Canada where, to this country's shame, both Plains and Wood buffalo were, if anything, in an even more precarious position at the end of the 1800's than were the remnants of the species south of the border.

The ensuing account of the buffalo's final secure preservation is almost incredible, involving as it does arbitrary decisions by owners of private herds, political haggling, and, for some time, inept management of a nomadic herd species in semi-confinement. Until quite recently the "rescued" buffalo seem to have been little more than pawns in the hand of man-- bought and sold, shipped here and there, exposed to disease and stress, and subjected to hybridization experiments. Only animals of stoic bovine constitution could have endured such punishment and made a strong comeback from the edge of oblivion. Certainly they needed human cooperation, but had the buffalo not

been robust and adaptable, they would have joined the ranks of the extinct after man began trying to preserve them. For this reviewer the story of the Park Buffalo is as much a tribute to the animal that wouldn't say "die" as to the efforts of man to prevent yet another extinction.

Considerable space is devoted to both the positive and negative aspects of buffalo management in Wainwright Buffalo Park (the first major preserve), Wood Buffalo National Park, and Elk Island National Park. Certainly this emphasis is justified. However, I was left with unanswered questions by the skimpy detail regarding the smaller buffalo herds in some of the other National Parks: Waterton Lakes, Prince Albert, and Riding Mountain. I felt more information about these should have been supplied for a comprehensive account of the buffalo in our National Park system. Perhaps too, less need have been said about buffalo-cattle hybridizations as these are peripheral to the wild buffalo story.

The reproduction of two of Charles M. Russell's watercolours painted during the round-up of the Pablo-Allard herd provide a dramatic cover and frontispiece. Within, Kelly's drawings and numerous archival photographs (all in black and white) enhance the text.

Stylistically, I found a number of annoying shortcomings. More rigorous proof-reading would have removed several obvious typographical errors. At times, especially in the first three chapters, sentence structure is awkward or punctuation inappropriate. Captions, photo credits, and footnotes are in the same size type as the text (except on p.31), which is occasionally confusing. I found that the wide spacing between paragraphs (instead of indentation) tended to disrupt continuity both visually and when I was reading. The use of italics for quoted material only does not seem to be entirely consistent. Finally, although the book is short and intended for the general reader, I think an index would have been an asset. This is a work which will be referred to again after the initial reading.

The imperfections of this book, however, are minor in relation to the intriguing and informative story it tells. I endorse the author's concluding words: "We have witnessed a mighty achievement, the rescue of a species." Add The Park Buffalo to your bookshelf regardless of your interests; it is a part of Canada's history.

To order your copy send a cheque or money order for $5.45 made out to Calgary-Banff Chapter, NPPAC at the publisher's address given above.

- Deirdre E. Griffiths
Site 4, Box 35
RR3 Sherwood Park, Alta. T8A 3K3

LETTERS TO THE EDITOR

18 April 1980

Dear Dr. McNicholl,

The (Seychelles) appeal is now going quite well. We have so far accumulated funds sufficient to ensure the conservation of Aldabra for the first four years and have so earned a breathing space in which to work to attract the greater sums still necessary with which to establish an endowment and so guarantee the non-violation of the atoll in perpetuity. We have plenty of ideas and are optimistic of achieving our goal in due course, but if you have ever been concerned with this type of fund raising, you will know that it is hard work, so we are all the more grateful for your offer of future assistance - we need all we can get.

Yours sincerely,

L.U. Mole
Secretary
c/o The Royal Society
6 Carlton House Terrace
London SW1Y 5AG

- - - - - - - - - - - -

80 05 05

Dear Sir:

On 4 May 1980 I saw (and observed for about ½ hour) a Black-necked Stilt on a slough just east of Calgary.

When first seen the stilt was 100 to 150 m away standing in shallow water preening. It was facing me in a position that made observations difficult, but at that time I saw clearly that its underparts and throat were pure white, its wing and back were black and it had a relatively narrow black line down the back of its neck. I also got a distinct impression of a white eye spot and a long slender bill. There were several American Avocets nearby at about the same distance and the stilt was noticably smaller than they were. At this point I had decided that it was probably a Black-necked Stilt, but was feeling uncertain because I had not had a clear view of the bird.

After about 15 minutes, the bird started wading and feeding and presented a view that left no doubt. Its wings, back and back of the neck were black (although looking brownish in certain light). I could see clearly the white eye spot, white forehead and long slender bill as well as the long, red legs. Its motion seemed slightly jerkier than that of the larger Avocets nearby. I watched the bird for another 15 minutes, during which time it continued to feed and came slightly closer to me (80 - 100 m). Eventually it turned and waded away from me.

The lighting at the time was excellent. Although I was looking toward the sun, it was obscured by a light cloud layer and was still high in the sky.

Unfortunately, I didn't take any field notes (this write-up was prepared the morning of 5 May but I believe the species is unmistakable.)

Sincerely,

Allan R. Brooks
13 - 27 Silver Springs Dr. NW
Calgary, Alberta T3B 4N3

Editor's Note: There are very few records of this species in Alberta but in 1977 2 nests were found at Beaverhills Lake. I have urged Mr. Brooks to submit his record to the A.O.R.C. - M.K.M.

May 15, 1980

Dear Mr. McNicholl,

This is the second year that the Whale Society of Edmonton has conducted a postcard campaign for the purpose of letting the Canadian Whaling Commission know about the public's interest in cetaceans and their welfare. We distribute a flyer with attached postcard meant to be mailed (postage free) to the Minister of Fisheries and Oceans.

Although the flyer deals only with the issue of commercial whaling, the postcard carries a general plea for the federal government to adopt pro-cetacean policies at all levels - international and national (coastal whaling, ocean pollution, etc.). This postcard is designed to be mailable at any time of year, but we have timed the initial distribution with the hope that a large number of submissions will reach Ottawa in time to affect the stance of Canada's delegation to the International Whaling Commission (I.W.C.), whose annual meeting is in mid-July.

As you may know, at the I.W.C. Canada has mainly aligned itself with the whaling interests (Japan, Russia, Iceland, Peru, etc.) rather than with the growing number of countries concerned with whale preservation (Australia, France, U.S.A., etc.). We feel that Canada should take a more careful look at its responsibilities to the environment, the oceans, and the protection of endangered species; public concern about these problems DOES exist in this country, and postcards submitted by individual Canadians would remind the government of this!

We would be most appreciative of any help you can give us in acquainting your readers with this campaign (and anything along that line accomplished by the end of June would indeed be wonderful!). I'm sorry to say that we cannot afford to run this campaign as an ad in your publication, or to pay any charges for its inclusion.

Thank you most kindly for any assistance you can give. More flyers are available if needed.

Sincerely,

J.M. Dorsey
Secretary
The Whale Society of Edmonton
P.O. Box 476, Substation Eleven
Edmonton, Alberta T6G 2E0

Editor's Note: A copy of the postcard is printed beneath our membership form in this issue. Copies of the poster and postcard can be obtained from the Whale Society at the above address. - M.K.M.

RECENT PUBLICATIONS ON THE NATURAL HISTORY OF ALBERTA

by David M. Ealey and Martin K. McNicholl

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FAN AND CNF NEWS

Deadlines for Project Reports:

1. Alberta Flowering Dates - 31 October 1980[2]
   Return to: Dr. Charles D. Bird
   Box 165
   Mirror, Alberta TOB 3CO

2. Alberta Christmas Bird Counts - 15 January 1981
   Mail to: Virginia Lang Young
   R.R. #1
   Busby, Alberta TOG OHO
   - where full count is to be published elsewhere, indicate reference as it should be cited.

3. Species Count day (May) - Birds and Mammals - 15 July 1980[1]
   Mail to: Allen N. Wiseley
   509 - 321 - 10 St. N.W.
   Calgary, Alberta T2N 1V7

4. Species Count Day (May) - Plants - 15 July 1980[1]
   Mail to: J. Derek Johnson
   Northern Forest Research Centre
   5320 - 122 Street
   Edmonton, Alberta T6H 3S5

5. Prairie Nest Records Scheme - 1 October 1980[2]
   Return to: Herbert W.R. Copland
   Manitoba Museum of Man & Nature
   190 Rupert Avenue
   Winnipeg, Manitoba R3B ON2

[1]This report is now overdue. If you have not done so, please send your report to the compiler immediately.

[2]This report will be due in the very near future. Please attend to your report as soon as possible.

FAN Grants to Alberta Teachers' Association - At the May 1980 FAN board meeting at Grande Prairie, the board approved 3 bursaries of $100.00 each to be granted to the Alberta Teachers' Association Specialist Council for Outdoor and Environmental Education. One bursary will go to Lethbridge, the other 2 to St. Paul - based on Minutes of 31st Regular Meeting of FAN.

Welcome to Alberta Speleological Society - No, the Editor is not showing his absent-mindedness in welcoming ASS as a corporate member of FAN after 3 years. The "cavers" joined us 3 years ago on a trial basis. At the May FAN board meeting, they were offered permanent corporate membership, and so are now officially one of us - good thing, too, as they have contributed a very capable Vice-President, Maryhelen Posey, to the board. - based on FAN minutes as per previous note.

Welcome Derek Johnson to FAN Board - In a third item in the minutes of the May FAN board meeting mentioned in the last 2 notes, J. Derek Johnson, our hardworking plant day co-ordinator, is announced as being appointed to the FAN board, filling a vacant Appointed Director position - welcome Derek!

Mammal Essay Competition Sponsored by Federation of Alberta Naturalist - 1980
This was the 4th competition with schools. This year's topic was "What would you select as a mammal emblem for the province of Alberta?"

Results and Statistics: Approximately 800 competition forms were mailed to Alberta Schools. 479 essays were received from 44 schools in 25 cities and towns. There were 41 wild mammal species selected and 4 domestic species. The White-tailed Deer was chosen by 66; the Buffalo (bison) by 44; the Coyote by 37; the Moose by 30 and the Beaver by 24. Others were as follows: Bat 1; Grizzly Bear 18; Black Bear 29; Badger 4; Bobcat 3; Caribou 1; Chipmunk 5; Cougar 19; Mule Deer 14; Elk 8; Fisher 1; Red Fox 14; Rocky Mountain Goat 5; Ground Squirrel 6; Snowshore Hare 5; Varying Hare 1; Lynx 8; Marten 1; Mink 1; Muskrat 3; Otter 3; Pika 2; Porcupine 3; Prairie Dog 4; Pronghorn (antelope) 2; Raccoon 9; Rabitt 22; Gray Squirrel 23; Flying Squirrel 2; Red Squirrel 3; Rocky Mountain Sheep 9; Skunk 7; Wolverine 2; Weasel 5; Gray Wolf 14; Timber Wolf 1. Domestic Mammals - Cat 2, Cow 2, Dog 1, Horse 8. If this is totalled it should be 472 - some were general about deer only, and squirrels only and one wrote about 4 wild mammals.

Towns and cities heard from were: Barnwell - 1 school; Beaverlodge - 3; Calgary - 8; Canmore - 1; Consort - 1; Delia - 1; Elk Point - 1; Edmonton - 7; Ft. Macleod - 1; Grande Centre - 1; Grande Prairie - 1; Hines Creek - 1; Legal - 1; Lethbridge - 2; Medicine Hat - 2; Ponoka - 1; Raymond - 1; Red Deer - 1; Standard - 1; St. Paul - 1; Stirling - 1; Vilna - 1; Westlock - 2; Wembley - 2; Worsley - 1.

Awards went to: ($5.00) Laureen Kobbert, Gr. 3 - Hines Creek; Rodney West, Gr. 5, Argyle School, Edmonton; Karen Seely, Gr. 7, Stirling; Lorene Edwards, Gr. 9, Barnwell; and Erin Sanderson, Gr. 5, Canmore, for essays on Squirrel, Red Fox, Antelope, Red Squirrel and Animal Essay respectively.

($10.00) to: Curtis Cook, Gr. 7, St. Mary's School, Beaverlodge, "Bobcat;" Stephanie Wise, Gr. 6, Killarney School, Calgary, "Moose;" Shelley Bjornson, Gr. 8, H. Balfour School, Grande Prairie, "White-tailed Deer;" Linda Owens, Gr. 9, Mecca Glen School, Ponoka, "Coyote Power;" and Julie Coulter, Gr. 5, Raymond Elementary, "Cow."

($15.00) to Freeha Bokhari, St. Clement School, Edmonton, Gr. 5, "Buffalo;" Brenda Field, Gr. 7, Stirling School, Stirling, "The Horse;" Brenda Oishii, Gr. 2, Stirling High School, "The Buffalo"; Randy Lypseng, Gr. 5, Elboya School, Calgary, "The Buffalo" and Andrew Hendry, Queen Street School, Spruce Grover, Gr. 6, "The Porcupine."

Some of the essays will be published in the Alberta Naturalist, starting with this issue.

I wish to thank all the students and the teachers for their participation. Many essays were written well and enclosed a nice picture or drawing of the mammal they had chosen as their recommendation. Almost all of the essays recommended a mammal to be the Alberta Provincial Mammal emblem, with at least one or two reasons. However, there were a large number which compared the outstanding qualities of the mammal to the people and assets of the province, and stated that these were their reasons that the mammal should and could represent Alberta's strengths best - hence some of these were chosen as the prize winners.

A copy of this report will be sent to the Minister of Culture, Province of Alberta for her consideration as a provincial mammal recommendation.

I thank each participant again for their very fine essays. Any suggestions for the Fifth Environmental Education Competition?

23 May 1980

- Mary S. Lore
Environmental Education Director
and President

Corrections to May Supplement - Lest anyone think that Al Wiseley has taken to erecting new species, we hasten to correct 2 typing errors in his report in the May 1980 supplement. On p.23, Winfield Mountain Blackbird should read Mountain Bluebird, and in Table 2, p.29 McCown's Sparrow should read McCown's Longspur. These errors are the result of a large number of corrections to this heavily edited article. On p.23, no numbers appear for Black-billed Magpie at Bow Island or for Lesser Yellowlegs and Brown-headed Cowbird at Winfield. These omissions are on the original, and we shall print the numbers in a future issue if they become available. - M.K.M.

Special issue on FAN history - Although a few key articles are still missing for the special issue of the Alberta Naturalist on FAN and its corporate member clubs (as of 26 August 1980), most of this issue has been completed, and it should be available in the near future. - M.K.M.

Special issue on banding in Alberta - Several potential authors have been invited to contribute to the special issue of the Alberta Naturalist on banding in Alberta. If you band birds or previously banded birds in Alberta and would like to contribute a note or paper to this issue, please send the Editor a title by 1 December 1980, and a manuscript by 1 April 1981. - M.K.M.

FAN Annual General Meeting

7 P.M. Friday 30 January 1981 through 3 P.M. Sunday 1 February 1981

Rates:	Husband & wife	$71.50
	Individual	38.50
	Youths, age 18-21	33.00
	13-17	27.50
	8-12	22.00
	3-7	16.00
	0-2	free

Bring own bedding
Meals at 9:00 AM, 12:30 PM, 5:30 PM
Cheques for $10.00 deposit or full fees should be sent to the undersigned at Box 1472, Edmonton, Alberta T5J 2N5

- Charles Harper

Federation of Alberta Naturalists - Standing Committees

1. RESEARCH - Al Wiseley, Chairman and Derek Johnson

2. WILDERNESS, PARKS AND NATURAL AREAS - Mike McIvor, Chairman
   Don Stiles, Mike O'Shea and Earl Stamm

3. PUBLICATIONS - Pat Clayton, Chairman and John Powell

4. ENVIRONMENTAL EDUCATION - Mary Lore, Chairman
   Myrna Pearman, Mary Bailey

5. ENDANGERED SPECIES - Maxine O'Riordan, Chairman
   Eric Smith, Lloyd Lohr and Mike O'Shea

6. FINANCE COMMITTEE - Dave Ealey, Chairman and Charles Harper

7. PUBLICITY COMMITTEE - Dorothy Dickson, Chairman and Dave Ealey

8. BY-LAWS AND CONSTITUTION - Harvey Gardner, Chairman

9. LAND USE COMMITTEE - Maryhelen Posey, Chairman
   Dorothy Broadbent, Fred Schutz

10. PUBLIC ADVISORY COMMITTEE - Dorothy Broadbent is the Representative
    Dave Ealey - Alternate
    N.B. Advance notice required if neither is able to attend.

11. ALBERTA ECOLOGICAL SURVEY - John Powell is the Representative
    Charles Bird is the Alternate

12. FISH AND WILDLIFE - John Powell is the Representative
    Dave Ealey is the Alternate

13. CANADIAN NATURE FEDERATION representative is Mary Lore

14. FEDERAL PROVINCIAL WILDLIFE CONFERENCE - Delegate: Maxine O'Riordon

15. ALBERTA ORNITHOLOGICAL RECORDS COMMITTEE: Chairman: Ian Halladay, Calgary
    Jim Salt, Edmonton; Peter Sherrington, Calgary

PRESIDENT'S PAGE

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by Mary S. Lore
1621 - 4 St. N.W.
Calgary, Alberta T2M 2Z1

The Big News is that "A NATURE GUIDE TO ALBERTA" is off the press and is available at book stores for $14.95. This nature guide was started more than three years ago by F.A.N. directors and members and many wrote articles on Alberta's inaccessible areas, often rich in natural rewards so that there would be a guide for studying and enjoying each area to the fullest. The idea to publish such a guide was discussed and planned as long as ten years ago, but it took several presidents, boards of directors and a committee of Dr. John Powell, Dr. Charles Bird and Lloyd Lohr, as well as Dave Spalding and

all his professional assistants to bring it to reality. An Alberta 75th anniversary commission grant through the Provincial Museum of Alberta made all this possible. It contains 368 pages of coloured photographs, maps, and descriptions of 177 areas. Congratulations to all those who made this Nature Guide possible.

Our corresponding secretary, Evangeline Case, had a two month vacation in Mexico. We hope she had a wonderful time but we do hope she remembers to come back to Calgary. John Powell and family enjoyed 5 weeks overseas and returned home. Our hard working editor and assistant editor continue to make every Alberta Naturalist interesting and special.

An invitation was received by F.A.N. to attend the unveiling of a plaque establishing Dinosaur Provincial Park as a UNESCO World Heritage Site, and your president and vice-president attended this impressive function on 19 June. As Alberta had planned it as a 75th anniversary celebration item, there were dignitaries from the provincial, federal and UNESCO governing bodies. The weather was right, the plans were well laid and everything went well. Guests and visitors were all treated with fine food and something special to do. Something I found special was to meet Janet (Nettie) Ware, the 87 year old daughter of John Ware, whose former home is an historical site within the park.

Canadian Nature Federation responded to FAN Past President Mike McIvor's request for assistance with the financial aspect of supporting an environmental co-ordinator in the amount of $1,000., a one time donation. To them go our appreciation for their interest and financial support of our projects. CNF president Diane Griffin outlined their support regarding action by the environmental co-ordinator as follows: 1. Conservation Groups Workshop; 2. Ecological Reserves and Natural Areas Program; 3. Resource Centre; 4. Interbasin Water Transfer.

Martin McNicholl responded to the Canadian Wildlife Service, Edmonton on the paper, "Waterfowl Management Plan for Canada, First Public Draft, June, 1980." John Powell responded to the paper from the provincial government, "Report of the Select Committee on Recreational and Commercial Fishing Industries in Albert."

Maryhelen Posey has been keeping up with hearings on Hazardous Wastes and recommended disposal methods of same.

The Sierra Club asked for donations and had a Garage Sale to raise funds for the support of the Environmental Co-ordinator.

Dorothy Dickson, Director and co-ordinator of the 20-21 September F.A.N. meeting has plans under way for a great outing.

Maxine O'Riordan was F.A.N.'s delegate to the Federal and Provincial Wildlife conference in Ottawa 23-27 June 1980.

If you as a club would like to host a F.A.N. spring, summer or fall meeting, please inform your director, so the F.A.N. Board of Directors can plan ahead.

Remember the Annual General Meeting and special winter outing at Camp Caroline, in Feburary 1981.

The May meeting in Grande Prairie was well attended and very special. The bus trip worked out very well and it was great meeting so many of the members of the Trumpeter Swan Naturalists - the field trips and food arrangements were excellent - we all learned more about their area and learned to know many of the members better - we also saw some Trumpeter Swans. Besides the T.S.N. members there, 24 went on the bus from Edmonton and 5 commuted on their own to Grande Prairie.

The Dept. of the Environment held hearings 17 July in Grande Prairie regarding the location of sulphur plants in the Grande Prairie area.

Dave Ealey will attend the Canadian Nature Federation Board of Directors meetings in Winnipeg on 27 and 28 August in place of Mary Lore, Representative Director for FAN. According to CNF by-laws, two signatures of the FAN Board of Directors is necessary to make such change, and the required document was prepared by M. Lore and D. Dickson and mailed to David Ealey and the President of CNF, Diane Griffin.

May all the corporate clubs have a good 1980-81 season, with interesting programs and the opportunity to enjoy the wonderful interests of the environment.

It was nice to see the Brook Lobelia (*Lobelia kalmii*) and the Fringed Gentian in the Canmore area in late July.

Snow worms are a rich golden colour and were found in a cluster on the edge of the receding snow in Kokanee Glacier Provincial Park near Nelson, B.C. Through the lens each worm had two antena and 3 legs on each side of the worm's wriggling torso. It has to be seen to be believed! On 16 July 1980 I photographed it!

EDITOR'S PAGE

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by Martin K. McNicholl
128 Silvergrove Hill N.W.
Calgary, Alberta T3B 4Z5

Readers are no doubt by now wondering whether the Alberta Naturalist has a schedule! The May supplement was much delayed by late reports. It was complete for typing at long last by the May long weekend, after which the Editor had three weeks of field work. Proof-reading and corrections were sandwiched into weekends between various parts of Saskatchewan and British Columbia. All this delayed the typing of the June issue, which was ready almost at the same time as the May supplement. As I write this in late June, the May supplement is ready to go to the printer, courtesy of Doug Whitfield, who is visiting on the long weekend, most of the June issue is proof-read and will hopefully accompany Doug to Dave Ealey in Edmonton as well, and the September issue is about two-thirds complete (3 weeks before the deadline). The historical supplement is also well along. The September issue may also be a bit late, however, as our able typist, Evangeline Case will be in Mexico most of July and August. Thus, we do aim for schedules, but with the travels of the Editor, Assistant Editor and typist, these cannot always be met. Please bear with us!

We are now receiving plenty of material - I am only three articles short for the September issue, and most of the material comes in within two weeks of the deadline. Thus, I expect a slight surplus again for the December issue. I prefer to have about half the material ready for the forthcoming issue when the current issue goes to press (I am speaking here of main articles, not the various news sections). This ensures adequate material for the next issue, without excessive delays in publication of a particular article. At the moment, I am still a bit short of cover stories, as I would prefer to have these lined up 2 issues in advance. If anybody knows a good nature artist with an appropriate article in his/her head, please drop some strong hints!

While recovering from a mysterious neck malady during the May count weekend and attempting to edit various portions of the Alberta Naturalist, I had plenty of news to remind me that nature still has much of the upper hand in dealing with *Homo sapiens*. The federal and three prairie provincial ministers of agriculture were rained out of a Calgary conference on the drought, much of Canada's forest area was on fire, and Mt. St. Helen's was disrupting weather for great distances. As much as I worry about the atrocities we commit on our environment, I must admit that our bulldozers and other gagetry can seem paltry beside some of nature's forces. While there is some comfort in that, we must keep up the fight to slow down Man's degradation. Our next 10 years will be a greater challenge than ever!

CLUB NEWS

Lethbridge Naturalist Society July 1980 - One area that naturalists often overlook is making non-members aware of our concerns. Everyone can participate. This can be subtly done by talking about bird sounds and sightings that are in your backyard. Soon people are hearing and seeing things that have always been there but not noticed before. One Lethbridge naturalist was called from bed at 11 p.m. to put a name to a sound a neighbour heard in his backyard. The miniature sonic boom aroused his attention and he wasn't sure if it had come from man or beast. But it was quickly identified as a Common Nighthawk and he was told to go outside and observe the bird in flight as it caught its nightly feast. You can now add another bird-watcher to the list in Lethbridge.

Another new member made the same mistake of many amateurs of seeing a bird nesting and immediately labelling it a shore bird because it was near water and then picked the nearest looking bird from his book and came up with a rare species for this area - a Mountain Plover. Luckily he sought a second opinion from local birdman Michael O'Shea and it turned out to be a Common Nighthawk nesting, with babies hatched.

But Lethbridge can report some rather rare species for this area and it would appear from the frequent sightings of these birds over the last couple of years these birds are expanding their areas. Seen have been Mockingbirds, Bobolinks and a Black-billed Cuckoo. An Eastern Bluebird has been reported from the Claresholm area.

The Interpretive Centre in the river valley Nature Reserve is quickly taking shape and its construction is largely being paid for by a 75th Anniversary Fund. The Helen Schuler Fund and donations from the local School Board and City will take care of furnishings. The Naturalist Society

is responsible for the spending of the 75th Anniversary Fund and has set up a Committee to deal with expenses. This Committee has representatives from the School Board, University, Community College, Environmental Education, and the City. They recommend to the Naturalist Society how funds should be spent and after Naturalist approval they supervise the spending of these funds.

The Helen Schuler Fund is still open for donations.

- Hazel Ross

Other Clubs - Corporate member clubs outside of Lethbridge seem to have gone into hiding for the summer, but I have been able to dig up some evidence of their activities. The Buffalo Lake Naturalists report a number of meetings and outings in their 16th newsletter (15 June 1980), including an "early bird hike" in April, a canoe trip on the Battle River, participation in May count day, and a trip to Duhamel. Philip Currie of the Provincial Museum lectured on Paleontology in Alberta in April, and the club has obtained a large series of slides for other indoor meetings from the University of Alberta. Summer field trips were planned to the Kananaskis, canoeing on the Red Deer River, and near Devon. A 75th anniversary grant to the Stettler Town & Country Museum included funds for new library shelves in the naturalists' room. The bird study group of the Calgary Field Naturalists had their first seasonal meeting in late August (phone conversation with A.N. Wiseley), and Cathy Osborne was organizing a duckling rescue from yet another slough being sacrificed to Calgary's rampant growth. Margot White, President of the Edmonton Natural History Club in another telephone conversation informed me that the Edmonton Naturalist, dormant for more than a year, is about to be revived. The Red Deer River Naturalists are cooperating with the local university in presenting extension courses, including a bird-watching course by yours truly this fall. The Trumpeter Swan Naturalists Society were planning a meeting in July on writing briefs and had a gathering at Saskatoon Lake Park in June (The Northern Nat. No.50, 1980). - M.K.M.

NOTES AND NEWS

Wilderness Travel Opportunity - A new company added to the ranks of those offering nature tours is Subarctic Wilderness Adventures Ltd. Their brochure indicates that they offer almost year-round wilderness opportunities of back-packing, hiking, canoeing, snowshoeing and related activities in the Alberta-Northwest Territories border area, near Wood Buffalo National Park. The guide is Jacques van Pelt, known to our readers for his efforts to save a river-nesting colony of White Pelicans. A brochure and other information can be obtained from: Subarctic Wilderness Adventures Ltd., Box 685, Fort Smith, N.W.T. XOE OPO.

Editor Elected to Banding Organization - Banders in Alberta may be interested to know that I was elected to the board of directors of the Western Bird Banding Association as a Director-at-Large for a 2-year term at their annual meeting at Corpus Christi, Texas in March 1980. Banders with concerns they would like expressed to the organization are invited to contact me at any time, whether or not you are members of W.B.B.A. - M.K.M., based on a letter from Martha H. Balph, President W.B.B.A., 31 March 1980.

Error in Box Number for Lister Book - Dick Dekker has pointed out that the box number in Otto Hohn's review of Bob Lister's book, "The birds and birders of Beaverhills Lake," was incorrect. The book can be ordered from Edmonton Bird

Club, Box 4441, Edmonton, Alberta T6E 4T5 for $9.50. With the American Ornithologists' Union meeting in Edmonton in 1981 there is likely to be high demand for the book by then, and Alberta naturalists would do well to order soon. - M.K.M.

Macoun Volume Reprinted - Readers interested in historical aspects of natural history in Canada will be delighted to learn of plans by the Ottawa Field-Naturalists' Club to reprint the "Autobiography of John Macoun, Canadian Explorer and Naturalist 1831-1920." Macoun's explorations of the prairie provinces are among the earliest extensive documents on natural history in this area. The new edition will include an introduction by Richard Glover, a map showing the routes of his major expeditions, editorial notes correcting errors in the original text, and other new features. This book may be ordered from The Ottawa Field-Naturalists' Club, Box 3264, Postal Station C, Ottawa, Ontario K1Y 4J5, price to be less than $15.00. - M.K.M., based primarily on a note in Can. Field.-Nat. 94:98, 1980.

New Bird Reporting Region for Prairies - Starting with the September 1979 issue of American Birds (Vol.33, No.5), the long established Northern Great Plains region, consisting of the Prairie Provinces, Dakotas and part of Montana, was divided into 2 regions: the Prairie Provinces region, now including the western mountains of Alberta (formerly in the Northern Rocky Mountain-intermountain region), and the Northern Great Plains region, consisting of the U.S. portion of the former region by the same name. Observers with bird reports from the prairie provinces should now send them to Dr. J. Bernard Gollop, Canadian Wildlife Service, 115 Perimeter Road, Saskatoon, Sask. S7N 0X4. Dr. Gollop is immediate past Editor of the Blue Jay. - M.K.M.

Film Festival - The University of Montana Student Chapter of The Wildlife Society will sponsor the Fourth Annual International Wildlife Film Festival in spring, 1981. We initiated the Festival to encourage film makers to produce better wildlife films, both in technical quality and content. Such films are essential in teaching ecological and environmental concepts to the public. These films may be the only contact many people have with wildlife, and so the messages they convey are critical.

The deadline for submission of applications and films is 14 March 1981. All entries must have a predominantly wildlife theme and have been produced or released during calendar year 1980. Judging will be held prior to the Festival. A panel of highly qualified film makers, humanists and biologists will judge both amateur and professional categories of wildlife films. Winning entries will receive certificates and the results will be publicized internationally.

The winning films will be shown to the public on 10, 11, and 12 April 1981, at the University of Montana campus is Missoula. Panels and workshops of film makers and biologists will also be a feature during this weekend, along with an art exhibit of wildlife paintings and photos.

Information, rules of eligibility, application forms, and the Festival agenda can be obtained by writing or calling:

Wildlife Film Festival
Wildlife Biology Program
University of Montana
Missoula, Montana 59812 U.S.A.
(406) 243-5272

Loran L. Goulden Memorial Award: Call for Nominations - The Loran L. Goulden Memorial Award is given annually to an individual who has contributed substantially to our understanding of nature in Alberta. Preference is given to amateurs (including those professionals who participate in nature study outside their "professional" field) and to professionals who actively encourage the work of amateurs. The awardee need not live in Alberta, but the work for which he/she is recognized must have been done in the province or encompass the province. Any field of natural history may be recognized. Recipients to date have been Dick Dekker, Prof. W. Ray Salt, Dr. Charles D. Bird, Robert Lister and Joy Finlay. Nominations for the 6th award must reach the committee by 1 December 1980, and should be supported by written documenation of the candidate's contributions. Nominations received after the deadline for the 6th award, and all nominations of candidates not receiving the next award will be retained for consideration in future years. Please send nominations to: Dr. Martin K. McNicholl, 128 Silvergrove Hill N.W., Calgary, Alberta T3B 4Z5.

National Parks of Canada on Postage Stamps - Canada's first National Park, Banff (then Rocky Mountain), is approaching its 100th anniversary, and to commemorate the event, the post office plans to issue 5 or 6 stamps in the $1.00 and $2.00 range of representative Canadian parks. Fundy National Park, New Brunswick and Kluane National Park, Yukon will be the first parks featured. - M.K.M. - based on article in Park News 16(2):26, reprinted from Conservation Canada.

Film on Canadian National Parks - Program planners in local clubs with gaps to fill may be interested in a new film, "To Sense the Wonder," about Canada's National Parks. This 16 mm colour film is 27 mins. long, and copies can be obtained from regional offices of Parks Canada or from the National Film Board. - M.K.M., based on article in Park News 16(2):26-27, 1980.

CONSERVATION NEWS

Highway Toll at Banff - An average of more than 80 big game animals were killed by traffic on the Trans-Canada highway through Banff National Park per year from 1964 to 1977 according to Bruce Patterson in an article cited in Park News 15(4):31, 1979-1980. October is the worst month. Fencing and underground passages are measures being considered by Parks Canada to reduce the problem, but the scheduled twinning of the highway will likely aggravate the situation. - M.M.K.

Banff Highway Assessment - An environmental assessment report of the proposal to twin the Trans-Canada Highway between the East gate at a point 13 km west of the gate is summarized in Park News 15(4):32, 1979-1980. The panel concluded that the twinning is necessary and compatible with national park policy, and that the environmental impact will not be significantly detrimental. Recommendations include underpasses or overpasses and fencing to channel ungulate movements (see news item above), realignment of Chinaman Creek and additional studies prior to final design. The report can be obtained from: Federal Environmental Assessment Review Office, Ottawa, Ontario K1A 0H3. - M.K.M.

Banff Centre - For several years the Banff Centre for Fine Arts has enjoyed a good reputation for instruction by top members in the field in a lovely setting. FAN board members who have met there in the past will realize the

potential for inspiration such a setting could provide, and among occasional teachers there have been such well known figures as wildlife artist, Clarence Tillenius. Now, however, some concern has been expressed over plans to expand the program there, as such an expansion could require new buildings, new car parks, etc. at a site already pressured by over-development. Clearly, such a centre is well worthy of encouragement, but such developments should be evaluated carefully. - M.K.M., based on news announcement in Park News 15(4): 33, 1979-1980.

Canadian Wildlife at Risk - I have now received the list of bird and mammal species assigned a formal status by the Committee On The Status Of Endangered Wildlife in Canada (COSEWIC). Fish, sea mammals, reptiles and amphibians are currently under review by the committee, and invertebrates and plants will be reviewed later. "Species" is used loosely, including distinct races in some cases in which the species as a whole may not be in trouble. Birds and mammals considered Rare in Canada are: Trumpeter Swan, Peregrine Falcon (subspecies *F. p. peali*), Ivory Gull, Caspian Tern, Great Gray Owl, Ipswick Sparrow, Black-tailed Prairie Dog, Pocket Gopher, and Grey Fox. Species considered threatened in Canada are: White Pelican, Peregrine Falcon (*F. p. tundrius* race), Piping Plover, Burrowing Owl, and Peary Caribou. Species considered endangered in Canada at present are: Peregrine Falcon (*F. p. anatum* race), Greater Prairie Chicken, Whooping Crane, Eskimo Curlew, Kirtland's Warbler, Vancouver Island Marmot, Sea Otter, Eastern Cougar, and Wood Bison. Extirpated species are: Black-footed Ferret and Swift Fox. Extinct species were not listed. Other species under review and not yet assigned a category include: Gyrfalcon, Double-crested Cormorant, Greater Sandhill Crane, Grizzly Bear, Fox Squirrel, Newfoundland Marten and Badger. The list will be updated frequently. - M.K.M.

Hunting of Migratory Birds by Native Peoples - A growing dilemma among conservationists concerns the hunting of game by natives. Although most conservationists recognize the importance of the rights of such people to live in their traditional manner, hunting is rarely now traditional as modern weapons and transportation ensure greater hunting success, and hunting by any means will be harmful to diminished populations, whether the scarcity is caused by natives or other people. With this background in mind, the American Ornithologists' Union passed a resolution at their annual meeting of 13-16 August 1979 at College Station, Texas to the effect that whereas the Canadian and U.S. governments plan to amend the Migratory Bird Treaty to permit hunting of migratory birds during the former closed season, that legislation bringing this change into effect ensures that such hunting is restricted to species and populations that can sustain it, and that this change is restricted to circumstances where such hunting is required for subsistence. - M.K.M., based on report in Auk 97(1): Suppl., p.10AA, 1980.

International Wildlife Trade - In recognition of the increase of importation of wildlife into the U.S. and Canada, the poor state of knowledge of these importations on the populations in the country or origin, and the importance of reliable statistics on imports in identifying actual or potential overexploitation, The American Ornithologists' Union passed a resolution in August 1979 (see previous note) urging the U.S. government to resume publication of summaries of introduced wildlife annually, and urging the Canadian government to publish similar statistics. - M.K.M., based on report in Auk 97(1): Suppl., p.12AA, 1980.

Wilderness Areas Act - In the 20 March 1980 throne speech, the Alberta provincial government made a commitment to introduce amendments to the

Wilderness Areas Act at the fall (1980) sitting of the Legislature to provide for ecological reserve and natural area land classifications. - Diane Griffin, President CNF.

Are "Accidentals" Increasing? - With the great increase in popularity of bird-watching and other nature study activities in North America, the numbers of reports of "accidentals" and other birds out of range has been steadily increasing. Much of this can, of course, be attributed to increased observer effort. But is this the only explanation? In the Point Reyes Bird Observatory Newsletter No. 50 (June 1980), Dave DeSante, summarizes the first 10 years of research on the Farallone Islands, California in an article, Landbird research on the Farallones," pp. 6-7. Vagrants were significantly more frequent in the second five years than in the first five, both in spring and fall migration periods. Why? Possible reasons are that populations of the species in their normal breeding range have increased, weather conditions promoted more vagrancy in the second 5-year period, environmental contaminants are causing a greater proportion of the birds to be disoriented, or massive changes in habitat are causing a selective increase in wandering. We are far from the answers, and don't even know if these results will be shown to be part of a trend, but they do show the need for long-term monitoring studies - another reason to participate in FAN's co-operative projects, the May species counts, Plant phenology project, and Christmas bird counts. - M.K.M.

Canadian Bird Populations - More Declines than Increases - The results of the 1979 Breeding Bird Survey in Canada (Finney *et al.* 1980, Can. Wild. Serv. Progress Note No. 111 - see Recent Literature section, this issue for full citation) indicates that increasing bird populations is not the most likely explanation for the apparent increase in vagrant birds discussed in the previous news note. In Canada as a whole, 12 species showed significant increases, whereas 25 decreased. Soras and Ring-billed Gulls showed increases in the southern prairie provinces, where Blue-winged Teal declined, but all three species tend to show erratic results on the BBS. House Wrens and Warbling Vireos increased in the southern prairies and all regions in Canada where they normally occur. Black-billed Magpies, Western Meadowlarks, and Common Flickers declined in both the southern and central portions of the prairie provinces, the latter also showing widespread decline in much of Canada. Killdeer declined in both the southern prairies and British Columbia, and Tree Swallows, Red-winged Blackbirds, Chipping Sparrows and Song Sparrows all showed declines in the central prairies, the Song Sparrow over much of its range east of the Rockies. A trend for a decrease in Lesser Scaup and Franklin's Gull in the central prairies continued, but a lack of Lark Buntings in the southern prairies and increase in Pine Siskins in the central prairies can be attributed to the erratic nature of these species. In fact, the Editor has found Lark Buntings to be extremely abundant in southern Saskatchewan this summer (i.e. 1980), an observation also mentioned to me by Philip S. Taylor of Saskatoon. Dark-eyed Juncos in the central prairies rose from a drop back to 1976 levels, but House Sparrows and American Goldfinches remained low there after significant declines in 1978. - M.K.M., summarized from the report cited.

Endangered and Threatened Wildlife - At the joint meeting of the Cooper and Wilson Ornithological societies in March 1980 in Corpus Christi, Texas, a resolution was passed commending the initiative of the U.S. Fish & Wildlife Service, Canadian Wildlife Service and state conservation agencies in consulting both government and non-government specialists in recent reviews of the status of rare and endangered species in North America, and

encouraging these agencies to continue this policy. Such a policy could call increasingly for expert amateur input, so naturalists should be prepared to cooperate to the maximum extent possible. Such resolutions are important also in promoting more cooperation between scientific, naturalist and conservation groups on one side and government departments or agencies on the other, as the latter will realize that we do not react only to negative issues. Thus, the 2 societies are to be commended for this resolution. I hope FAN will likewise make every effort to commend when commendation is due, just as we condemn whenever condemnation is warranted. - M.K.M., based on report on Sixty-first annual meeting of the Wilson Ornithol. Soc. by C.S. Adkisson, Wilson Bull. 92:274-287, 1980.

Alternatives and Friends of the Earth - Friends of the Earth Canada is an organization of conservation groups in Canada, dedicated to furthering the conservation ethic in Canada and to promoting the aims and objectives of its member clubs. Although individuals can donate funds to Friends of the Earth Canada, they cannot belong directly, but can subscribe to Alternatives (now combined with Conserver Society). Subscriptions are $10.00 for 4 issues, and $25.00 for 12 issues. These may be ordered from Alternatives, c/o Trent University, Peterborough, Ontario K9J 7B8. - M.K.M., based on pamphlets sent by Mary Lore.

Water Resources Management in Alberta - Environment Views 3(2), 1980 consists almost entirely of the first part of a detailed examination of water resource management in Alberta. Articles range from methods of trapping water to guidelines laid down by government, or problems of water distribution (too wet in northern areas, too dry in southern areas for particular interest groups), to regional problems, to specific uses (recreation, Ducks Unlimited, hydro dams). Although written in journalistic style, and not with follow-up reading, this is a useful general summary of a wide-ranging resource issue and should serve as useful background reading material in preparation of briefs, etc. Environment Views is a free bi-monthly publication of Alberta Environment, and can be ordered from Environment Views, Alberta Environment, 9820 - 106 Street, Edmonton, Alberta T5K 2J6. Each issue deals with a specific environmental topic, and usually presents 2 or more sides to the question at hand. For this reason I find it useful as to insights into the non-naturalist position on many issues. - M.K.M.

Noise Hearings in 1981 - According to Environment Views 3(2): 36, 1980, the Environment Council of Alberta (ECA) is planning hearings on the effects of noise on the environment early in 1981. Interested persons may contact the ECA at 427-5792 (Edmonton) or Zenith 06075 (non-Edmonton).- M.K.M.

Elbow River Flooding - According to Environment Views 3(2): 36, 1980, an interim report on options for flood plain management of the Elbow River is now available for public comment. A summary of the report may be obtained from Linda Hanse, Alberta Environment, Public Participation Branch, 14th floor, Rocky Mountain Plaza, 615 - 2nd St. S.E., Calgary, Alberta T2G 4T8 (phone 261-6586.) - M.K.M.

JUNIOR NATURALISTS' SECTION

THE WHITE-TAILED DEER

by Moonira Rampari
Grace Shepherd Elementary
Box 450
Hines Creek, Alberta
TOH 2A0

I like the White-tailed Deer, because it's my favourite animal. The White-tailed Deer lives in Alberta. The deer eat acorns, beechnuts and chestnuts. The deer is light brown and white in colour.

I choose the White-tailed Deer because I like it. The White-tailed Deer is the most common member of the deer family in North America. Long ago there were many deer; then people started to hunt them and few were left. Now, the government controls the hunting. Now, the number is getting bigger.

THE BUFFALO AS A MAMMAL EMBLEM

by Brenda Dishi
Stirling High
Box 340
Stirling, Alberta
TOK 2E0

My suggestion for a mammal emblem for Alberta is the Buffalo or American Bison. Although the Buffalo do not have a great significance in Alberta's wildlife population anymore, they played a major role in the past, which to me, is just as important. They were distributed throughout much of the province at one time and served as excellent food, clothing, and shelter. The Indians used them as the base of many of their native legends; such was their importance. Their great numbers kept the grasses cropped and the soil fertile. Their trampling hooves prevented excessive growth of the aspens. Their horns were the first source of income to the trickle of settlers who sold them by the masses to sugar refining factories in the east. As one author states, "The presence of the Bison was an important factor in the opening up of the country."

Not only is the Buffalo a symbol of the past but an example for the present and future. As I've shown, the Buffalo was an important member of the environment: versatile and dependent upon it in so many ways. Just so, today, Alberta plays a vital role in Canada's economy, supplying a large proportion of her beef, grain, and oil.

The Buffalo is considered one of the "noble species" and there is much to be admired in them. "Of all the amazing mammals that roamed the plains over the millions of years, for aggressiveness, adaptability, and numbers none could surpass the American Bison." Many of these qualities are common in Alberta, too. Agression is one thing which is surely showing up in

Alberta's personality. Just as the size and sharp horns enabled the Buffalo herd to be quite a match for the pack of hungry Wolves forever tailing them, Alberta now has her oil and agricultural products which enable her to finally stand up for long due equality, status, and recognition of being an individual province--not just part of the west. She is growing in number at a rapid pace. For example, take a look at Calgary: a boomtown in the true sense of the word.

The Buffalo have never been a real threat to mankind, except maybe to his conscience. Out of the 60-75 million which once roamed over all of North America, their number has dwindled to a pathetic few hundred. In Alberta, their presence is limited to Elk Island and Wood Buffalo National Parks when at one time, their domain was most of the province. Perhaps by making them our mammal emblem, people will realize how close the Buffalo were to extinction. Maybe we will become more conscious of conserving them and try harder to give them back a niche in the environment.

It is very tragic as to the disappearance of the great herds of Buffalo, especially in the way they were killed off. However, the simple fact is that there was no longer any room for them. The same land they grazed on was needed by the settlers for farming. In a way, they had to give way to a surging tide of a species greather than themselves--just as others did in the past and just as we will have to do in the future.

It is something of great significance to be sacrificed for the sake of mankind, and I think that through the mammal emblem, Albertans have the opportunity to acknowledge and honour this sacrifice.

THE SQUIRREL

by Kathy Nykolyshyn
Grace Shepherd Elem. School
Box 450
Hines Creek, Alberta
TOH 2A0

The squirrel looks like a chipmunk in many ways. It has a bushy tail, round body, small feet and is a fast runner. They can run fifteen miles per hour. There are different kinds and colours of squirrels. They store nuts, mushrooms and acorns in piles for winter. Some squirrels do not do this because they sleep in the winter.

I chose this animal because I saw many of the brown squirrels and they look cute and cuddly but I don't think they are because they bite to protect themselves. A squirrel built a nest on the wall of the chicken coop, the mother was killed and the babies were under the heatlamp with the chicks. That's why I chose the squirrel for the Alberta animal.

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Signed _____
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To:

The Honorable Romeo LeBlanc
Minister of Fisheries & Oceans
Ottawa, Ontario
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(R.S.V.P.)

(See Letters to the Editor)

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